

## SEARCH REQUEST FORM

Requestor's

Name:

M. Zanelli

Serial

Number:

Reissue U.S. 5,510,982

Date:

11/30/98

Phone:

305-9756

Art Unit:

3661PK2-2D28

## Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

Litigation Search for U.S. Patent 5,510,982  
S.N. 07/985,199

Call 12/6/98  
DF  
will pick up

## STAFF USE ONLY

Date completed: 12-1-98Searcher: D. FLOWETerminal time: 20

Elapsed time:

CPU time: 5Total time: 25Number of Searches: 1Number of Databases: 3

## Search Site

☐ STIC☐ CM-1☐ Pre-S

## Type of Search

☐ N.A. Sequence☐ A.A. Sequence☐ Structure☐ Bibliographic

## Vendors

☐ IG☐ STN☒ Dialog☐ APS☐ Geninfo☐ SDC☐ DARC/Questel☒ Other

LEVEL - 1 OF 1 PATENT

5,510,982

<=2> GET 1st DRAWING SHEET OF 20

Apr. 23, 1996

Automatic automobile transmission with variable shift  
pattern controlled in response to estimated running load

REISSUE: Reissue Application filed Apr. 23, 1998 (O.G. Oct. 6, 1998) Ex. Gp.:  
2304; Re. S.N. 09/064,765

INVENTOR: Ohnishi, Hiroshi, Katsuta, Japan  
Kitano, Kouji, Kagawa, Japan  
Kayano, Mitsuo, Hitachi, Japan  
Kurihara, Nobuo, Hitachiota, Japan

ASSIGNEE-AT-ISSUE: Hitachi, Ltd., Japan (03)

APPL-N0: 985,199

LEXIS-NEXIS  
Library: PATENT  
File: ALL

5,510,982 OR 5510982

**LEXIS-NEXIS**  
Library: **PATENT**  
File: **CASES**

Your search request has found no CASES.

To edit the above request, use the arrow keys. Be sure to move the cursor to the end of the request before you enter it.

To enter a new search request, type it and press the ENTER key.

What you enter will be Search Level 1.

For further explanation, press the H key (for HELP) and then the ENTER key.

5,510,982 OR 5510982

**LEXIS-NEXIS**  
Library: **PATENT**  
File: **PTCLAW**

Your search request has found no ITEMS.

To edit the above request, use the arrow keys. Be sure to move the cursor to the end of the request before you enter it.

To enter a new search request, type it and press the ENTER key.

What you enter will be Search Level 1.

For further explanation, press the H key (for HELP) and then the ENTER key.

5,510,982 OR 5510982

**LEXIS-NEXIS**  
Library: **PATENT**  
File: **PTCJNL**

Your search request has found no ITEMS.

To edit the above request, use the arrow keys. Be sure to move the cursor to the end of the request before you enter it.

To enter a new search request, type it and press the ENTER key.

What you enter will be Search Level 1.

For further explanation, press the H key (for HELP) and then the ENTER key.

-1- (PAST)

ACCESSION NUMBER

9840-001093

PATENT NUMBER

US5510982

DOCUMENT TYPE

A (UTILITY)

OFFICIAL GAZETTE

98.10.06

CODE

REA

ACTION

REISSUE APPLICATION FILED

-1- (LEGSTAT)

PATENT NUMBER

DOCUMENT TYPE

ACTION

US 5510982 [US5510982]

US-P

92.12.03 US/AE-A

APPLICATION DATA (PATENT)

{US 985199/92 [92US-985199] 92.12.03}

ACTION

96.04.23 US/A

PATENT

ACTION

98.10.06 US/RF

REISSUE APPLICATION FILED

980423

1/9/1

DIALOG(R) File 351:DERWENT WPI  
(c)1998 Derwent Info Ltd. All rts. reserv.

009496104 \*\*Image available\*\*

WPI Acc No: 93-189640/199324

XRPX Acc No: N93-145750

**Automatic gearbox control for motor vehicle - uses vehicle wt.  
calculator, output torque estimator and stored gear setting tables to  
select gear taking into account required acceleration**

Patent Assignee: HITACHI LTD (HITA )

Inventor: KAYANO M; KITANO K; KURIHARA N; ONISHI H; OHNISHI H

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
DE 4240762	A1	19930609	DE 4240762	A	19921203	F16H-059/52	199324 B
US 5510982	A	19960423	US 92985199	A	19921203	B60K-017/06	199622

Priority Applications (No Type Date): JP 91319205 A 19911203

Patent Details:

Patent	Kind	Lan	Pg	Filing	Notes	Application	Patent
DE 4240762	A1		15				
US 5510982	A		28				

Abstract (Basic): DE 4240762 A

The control of an automatic gearbox for a car has a device for estimating the weight of the vehicle, a device for estimating the output torque, an acceleration input device receiving the acceleration signal and a load estimator, using the estimated weight, torque and required acceleration as input parameters. A memory unit stores at least two gear position tables. A gear selection device chooses one of the table, corresp. to the vehicle weight and estimated load, and then determines the optimum gear setting.

A neuron network is supplied with values of throttle opening and acceleration in order that the vehicle weight can be estimated.

ADVANTAGE - By exact matching of the selected gear to vehicle weight and load, fuel consumption can be improved.

Dwg.1/21

Abstract (Equivalent): US 5510982 A

System for controlling selection of gear position for an automatic transmission of an automobile comprising:

weight estimation means for estimating a total weight of said automobile;

acceleration input means for receiving an acceleration signal indicative of acceleration of said automobile;

output torque estimation means for estimating an output torque based on torque characteristics of a drive train of said automobile;

running load estimation means for estimating a running load from the estimated weight of the automobile, the acceleration, and the estimated output torque;

memory means for storing at least two shift schedules therein;

a shift schedule variable-control unit which determines a shift schedule of an automatic transmission of said drive train during actual running of said automobile on the basis of the estimated running load, the estimated weight of the automobile and the stored shift schedules; and

gear shift determination means for selecting a gear position of said automatic transmission based on the determined shift schedule;

wherein said output torque estimation means estimates said output torque based on torque characteristics of an engine of said drive train when a ratio between an input revolution speed and an output revolution speed of said torque converter is greater than a predetermined value, and based on torque characteristics of a torque converter of said automatic transmission when said ratio is less than said predetermined value.

Dwg.1

Title Terms: AUTOMATIC; GEAR; CONTROL; MOTOR; VEHICLE; VEHICLE; WEIGHT;



CALCULATE; OUTPUT; TO [REDACTED] JE; ESTIMATE; STORAGE; GEAR; SET; TABLE; SELECT;  
GEAR; ACCOUNT; REQUIRE; ACCELERATE  
Derwent Class: Q13; Q64; T01; X22  
International Patent Class (Main): B60K-017/06; F16H-059/52  
International Patent Class (Additional): B60K-041/06; F16H-059/24;  
F16H-059/66  
File Segment: EPI; EngPI  
Manual Codes (EPI/S-X): T01-J07C; T01-J16C1; X22-G01